

REMARKS / ARGUMENTS

I. General Remarks.

Claims 1-20 are pending in this application. Claims 7, 9, and 10 have been amended in this Response.

All the above amendments are made in a good faith effort to advance the prosecution on the merits of this case. Applicants respectfully request that the above amendments be entered and further request reconsideration of the application in view of the amendments and the remarks contained herein.

II. Drawings.

With respect to drawings, the Examiner states that the “[s]ubject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 C.F.R. 1.81(c).” (Office Action at 2.) In pertinent part, 37 C.F.R. 1.81(c) provides that “[w]henver the nature of the subject matter sought to be patented admits of illustration by a drawing without its being necessary for the understanding of the subject matter and the applicant has not furnished such a drawing, the examiner will require its submission.” Applicants respectfully submit that the subject matter does not admit to illustration by a drawing. Nowhere does the Application refer to or discuss a drawing. Accordingly, Applicants respectfully request the removal of this request.

III. Claim Objections.

Claims 9 and 11 were objected to due to the recitation of “the heater.” (Office Action at 2.) Applicants have amended claim 9 and 10 (from which claim 11 depends) to overcome this objection and respectfully request full allowance of the claims 9 and 11. Applicants have similarly amended claim 7 to effect the same correction. Accordingly, Applicants respectfully request the removal of this objection with respect to these claims.

IV. Rejection of Claims Under 35 U.S.C. § 102.

Claims 1-5 and 8 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 5,769,165 (“*Bross*”). (Office Action at 3.) Applicant respectfully traverses, and

submits that that the Examiner has not shown that *Bross* discloses every limitation recited in Applicant's claims 1-5 and 8 as required to anticipate the claims under 35 U.S.C. § 102(b). See MPEP § 2131.

With respect to *Bross*, the Examiner has stated that:

Bross discloses a method of stimulating a water sensitive coal bed seam containing methane gas penetrated by a well bore to enhance the production of methane gas therefrom comprising the steps of: (a) contacting and heating the coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas flow passages therein; and (b) producing the methane gas through the flow passages (col. 3, lines 1-62).

(Office Action at 3.) Applicant respectfully note, however, that the Examiner has not shown *Bross* to disclose "contacting and heating the coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas flow passages," as recited by Applicant's independent claim 1.

Bross teaches that a "tail gas mixture typically contains nitrogen, carbon monoxide, carbon dioxide, water vapor and, in most instances, some light hydrocarbons." *Bross* col. 3, ll. 63-66. As *Bross* describes, "[t]his mixture is injected at a selected pressure and a selected temperature back into the coal formation." *Bross* col. 3, l. 67-col. 4, ll. 2. With respect to the injection of carbon dioxide, *Bross* discloses that the carbon dioxide "displaces the methane from the coal so that the methane is freed." *Bross* col. 1, ll. 34-41. And, with respect to the injection of other inert gases, such as nitrogen, *Bross* discloses that such gases "cause methane to desorb from the coal as required to maintain the methane partial pressure in the atmosphere in the coal formation." *Bross* col. 1, ll. 44-50. Nowhere, however, does *Bross* describe contacting and heating the coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas flow passages, as recited in Applicant's independent claim 1.

Accordingly, Applicant respectfully asserts that independent claim 1, and the claims dependent therefrom, are novel over *Bross*. Applicant respectfully requests withdrawal of the § 102(b) rejection as to claims 1-5 and 8, and further requests the timely issuance of a Notice of Allowance for these claims.

V. Rejections under 35 U.S.C. § 103.

A. Rejection of Claims 6, 7, 9-11, 13-18, and 20.

Claims 6, 7, 9-11, 13-18, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bross* in view of U.S. Pat. No. 5,539,853 (“*Jamaluddin*”). (Office Action at 4.) Applicant respectfully traverses.

To establish a *prima facie* case of obviousness, the cited references must teach or suggest each and every claim limitation. See MPEP § 2142. Since *Bross* in view of *Jamaluddin* does not teach or suggest each and every claim limitation, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness with respect to the subject claims. See MPEP § 2142.

With regard to claims 6, 7, and 9-11, which depend from independent claim 1, Applicant submits that *Bross* in view of *Jamaluddin*, fails to teach or suggest “contacting and heating the coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas flow passages,” as recited by Applicant’s independent claim 1. As discussed above, *Bross* does not describe contacting and heating the coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas flow passages. Applicant respectfully asserts that *Jamaluddin* has not been shown to remedy this deficiency. For instance, *Jamaluddin* teaches a “down hole heater for formation heat treatment.” *Jamaluddin*, col. 1, ll. 9-10. Nowhere does *Jamaluddin* teach or suggest contacting and heating the coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas flow passages, as recited in Applicant’s independent claim 1. Accordingly, applicants respectfully submit that *Bross* in view of *Jamaluddin* does not teach or suggest each and every element of claims 6, 7, and 9-11.

With regard to independent claim 13, and claims 14-18 and 20, which depend from independent claim 13, Applicant submits that *Bross* in view of *Jamaluddin*, fails to teach or suggest “heating the nitrogen gas by the heater to a temperature in the range of from about the in situ ambient temperature to about 350°F so that the nitrogen gas heats the coal bed and causes it to shrink and form enlarged gas flow passages therein,” as recited by Applicant’s independent claim 13. As discussed above, *Bross* does not teach or suggest this recitation. Applicant respectfully asserts that *Jamaluddin* has not been shown to remedy this deficiency either. For instance, nowhere does *Jamaluddin* teach or suggest heating the nitrogen gas by the heater to a

temperature in the range of from about the in situ ambient temperature to about 350°F so that the nitrogen gas heats the coal bed and causes it to shrink and form enlarged gas flow passages therein, as recited in Applicant's independent claim 13. Accordingly, applicants respectfully submit that *Bross* in view of *Jamaluddin* does not teach or suggest each and every element of claims 13-18 and 20.

Therefore, Applicant respectfully asserts that claims 6, 7, 9-11, 13-18, and 20 are not obvious over *Bross* in view of *Jamaluddin*. Accordingly, Applicant respectfully requests withdrawal of the § 103(a) rejection as to claims 6, 7, 9-11, 13-18, and 20, and further requests the timely issuance of a Notice of Allowance for these claims.

B. Rejection of Claims 12 and 19.

Claims 12 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bross* in view of *Jamaluddin* and further in view of U.S. Pat. No. 4,962,815 (*Schultz*). (Office Action at 5.) Applicant respectfully traverses.

To establish a *prima facie* case of obviousness, the cited references must teach or suggest each and every claim limitation. See MPEP § 2142. Since *Bross* in view of *Jamaluddin* and further in view of *Schultz* does not teach or suggest each and every claim limitation, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness with respect to the subject claims. See MPEP § 2142.

As discussed above, *Bross* in view of *Jamaluddin* fails to teach or suggest "contacting and heating the coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas flow passages," as recited by Applicant's independent claim 1 (from which claim 12 depends). Also as discussed above, *Bross* in view of *Jamaluddin*, fails to teach or suggest "heating the nitrogen gas by the heater to a temperature in the range of from about the in situ ambient temperature to about 350°F so that the nitrogen gas heats the coal bed and causes it to shrink and form enlarged gas flow passages therein," as recited by Applicant's independent claim 13 (from which claim 19 depends). Applicant respectfully asserts that *Schultz* has not been shown to remedy these deficiencies.

For instance, *Shultz* teaches a "straddle packer apparatus for isolating a zone of a well." *Shultz*, col. 1, ll. 6-7. Nowhere does *Shultz* teach or suggest contacting and heating a coal bed seam with hot nitrogen gas so that the coal bed in the seam shrinks and forms methane gas

flow passages, as recited in Applicant's independent claim 1. Nor does *Shultz* teach heating the nitrogen gas by the heater to a temperature in the range of from about the in situ ambient temperature to about 350°F so that the nitrogen gas heats the coal bed and causes it to shrink and form enlarged gas flow passages therein, as recited in Applicant's independent claim 13.

Therefore, Applicant respectfully asserts that claims 12 and 19 are not obvious over *Bross* in view of *Jamaluddin* and further in view of *Shultz*. Accordingly, Applicant respectfully requests withdrawal of the § 103(a) rejection as to claims 12 and 19, and further requests the timely issuance of a Notice of Allowance for these claims.

SUMMARY

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding objections and rejections. Applicant further submits that the application is now in condition for allowance, and earnestly solicits timely notice of the same. Should the Examiner have any questions, comments, or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicant believes that there are no fees due in association with this filing. However, should the Commissioner deem that any fees are due, including any fees for extensions of time, Applicant respectfully requests that the Commissioner accept this as a Petition Therefor, and direct that any additional fees be charged to Halliburton Energy Services, Inc. Deposit Account No. 08-0300.

Respectfully submitted,

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